c) REMARKS

The claims are 1-8 with claims 1 and 7 being independent. Claim 7 has been amended to better define the intended invention. Reconsideration of the claims is respectfully requested.

Under M.P.E.P. §821.04 Applicants request rejoinder of the claims of Group I, claims 1-6 upon allowance of the claims of Group II. The elected claims of Group II are directed to a process-to-use which employs the system of the claims of Group I. Accordingly, upon allowance of the process-to-use claims it is submitted that the underlying system claims should be rejoined under M.P.E.P. §821.04.

Support for the amendment to claim 7 is found, inter alia, on page 9, lines 1-3, in the Third Example on pages 19 and 20 and in the Fourth Example on pages 22 and 23.

Claims 7 and 8 were rejected under Rule 112, second paragraph. Claim 7 has been amended to address each of the Examiner's raised concerns and withdrawal of the rejection is requested.

Upon an indication of allowable subject matter, the specification will be corrected for idiomatic and syntax errors.

Claims 7 and 8 were rejected as obvious over Harano or Iacovangelo in view of Pinkhasov. Claims 7 and 8 were also deemed obvious over DeLozanne in view of Noda and vice-versa. The grounds of rejection advanced on pages 4-8 of the Official Action is respectfully traversed.

Prior to addressing the grounds of rejection, Applicants wish to briefly review certain key features and advantages of the present claimed invention.

In general, when preparing a thin fluoride film, when a gas source for the film is vaporized, the fluorine component is readily released from the material. When the thin film is formed, since fluorine has already been released, the resulting film quality is deteriorated. To compensate, additional fluorine can be externally introduced.

However, since it is technically difficult to compensate a film with fluorine, initially the fluorine is typically ionized and then introduced into the film. During such ionization, fluorine gas is activated to form a plasma. However, fluorine gas is highly corrosive. In a plasma fluorine is in an ionized or atomic state and is much more corrosive. When fluorine gas or fluorine ions are introduced into a film-forming chamber or when fluorine gas is ionized in a film-forming chamber, the walls of the chamber are easily etched and contaminants are generated. When such contaminants deposit in the film, film quality is deteriorated.

The present invention provides a process which can prevent deterioration of such a thin film. In the process, a reaction chamber, in which a highly corrosive gas is introduced and a plasma is generated, is separated from the film-forming chamber. The reaction chamber is formed of a material having excellent corrosion resistance or is subjected to a surface treatment to enhance corrosion resistance.

It is possible to make a film-forming chamber of a material having corrosion resistance or the chamber can be subjected to a surface treatment to enhance corrosion resistance. However, since the internal volume of a typical film-forming chamber is quite large, it is difficult to uniformly treat the entire surface to enhance its corrosion resistance. Where portions of the chamber are not uniformly treated, then corrosion occurs. Therefore, in the present invention, a separate reaction chamber is provided and fluorine gas is formed

into a plasma in the reaction chamber. The resulting fluoride deposition film is formed without etching the deposition or film-forming chamber and without forming contaminants in the deposition chamber which can compromise the deposited film.

None of the references, whether alone or combined, either disclose or suggest the key features of the present invention nor the advantageous effects mentioned above. In particular, the cited references fail to teach or suggest forming a plasma of a fluorine-containing source gas or forming a fluoride deposition film.

Accordingly, the claims are allowable and should be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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